

09153364-091598  
869T60-4985T60

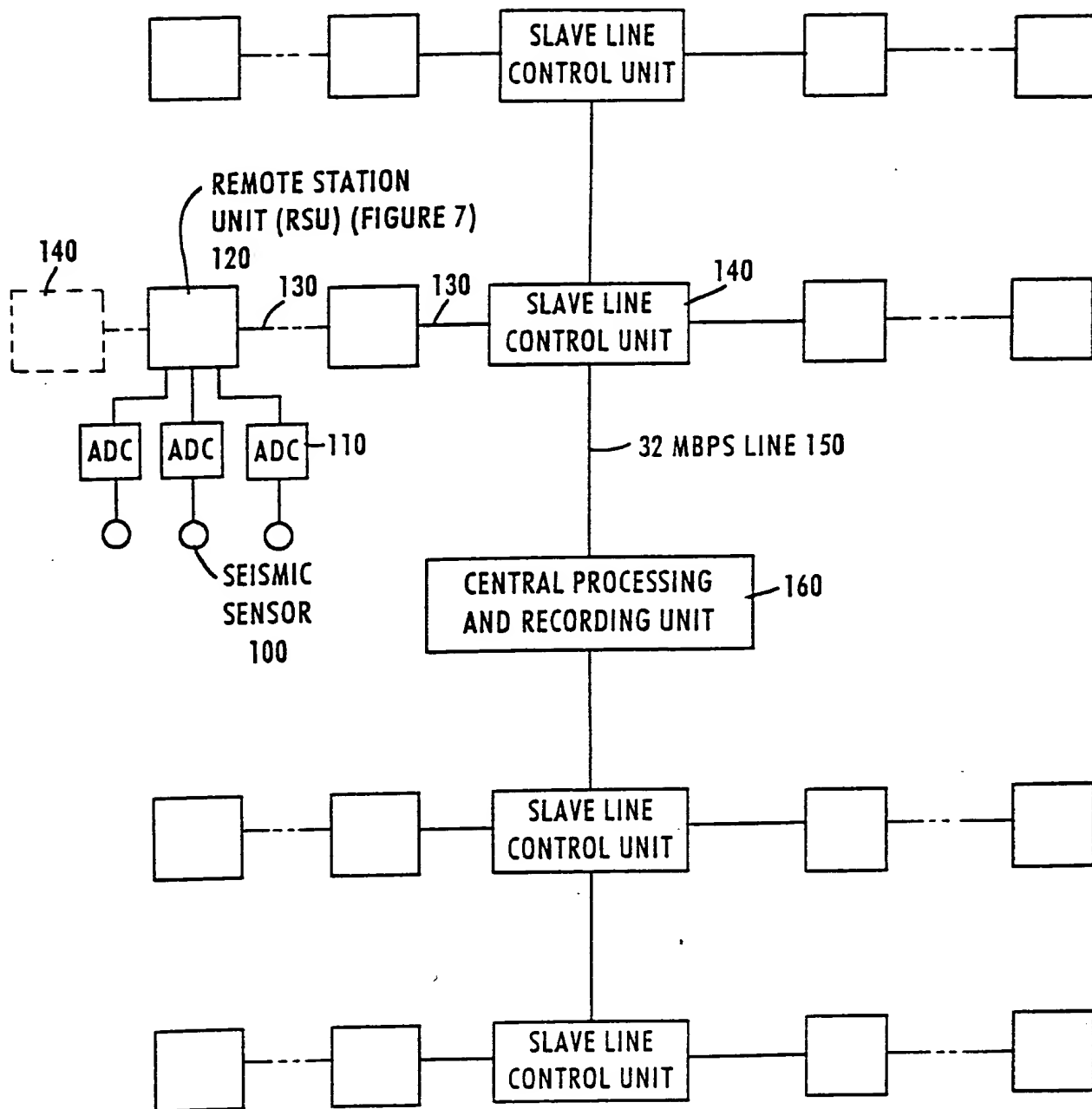


Figure 1

53hup

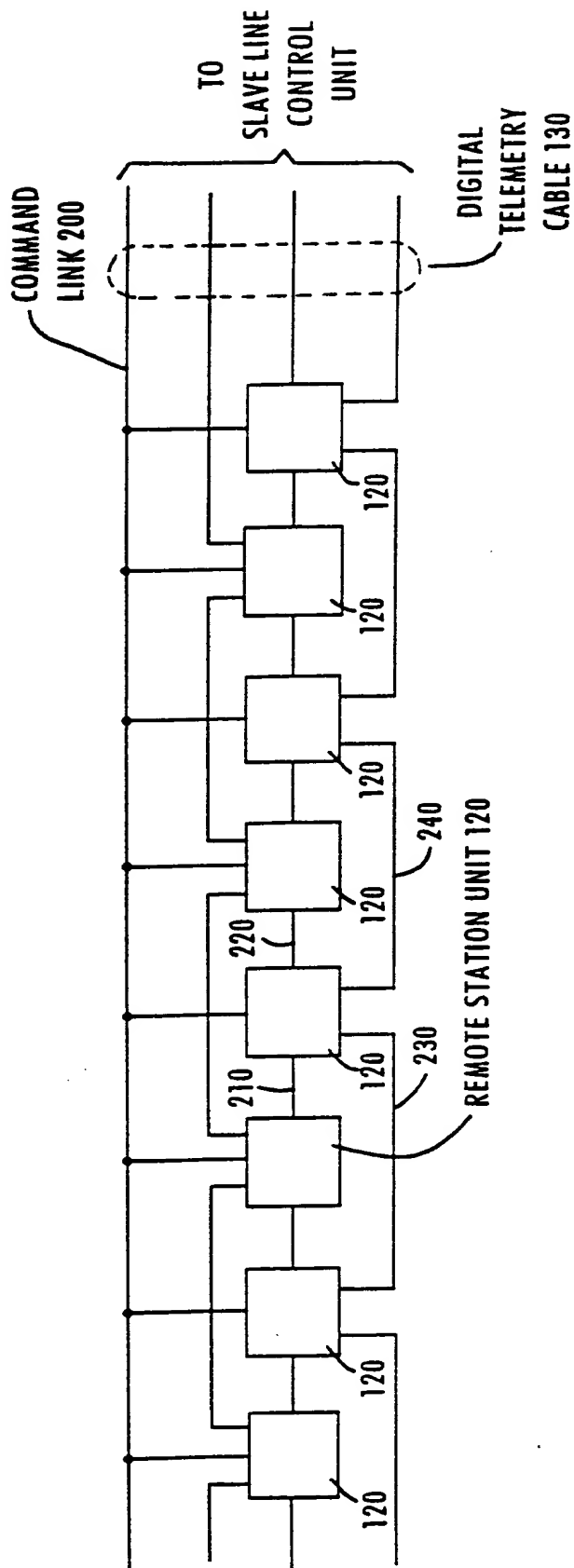


Figure 2

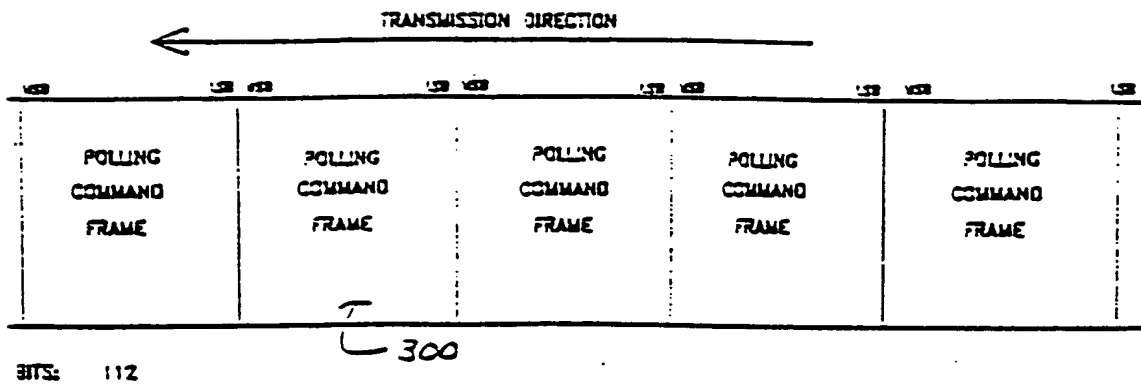


FIGURE 3A

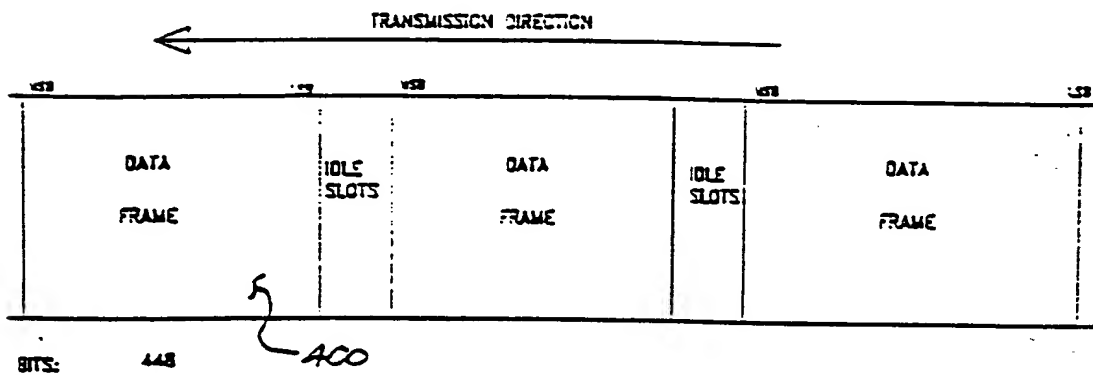


FIGURE 3B

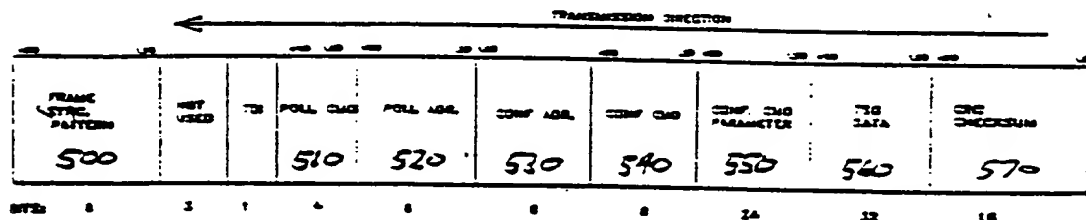


FIGURE 3C

059T60"498EST60

0913364-09169  
069T60-4982T60

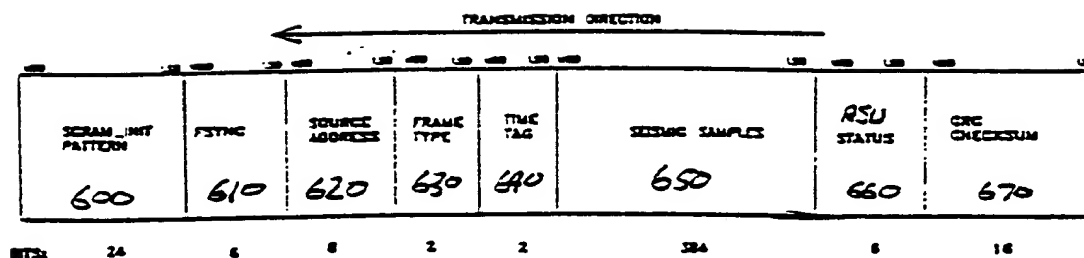


FIGURE 3D

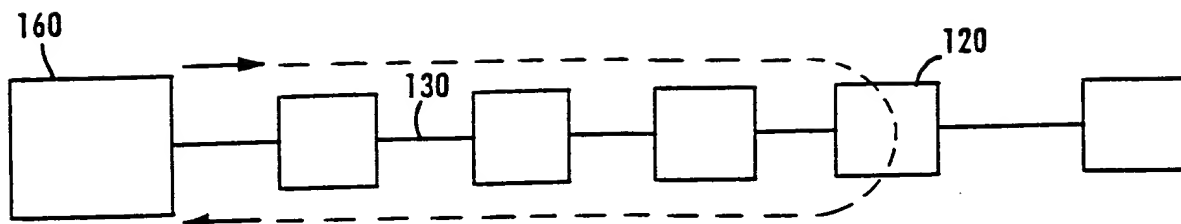


Figure 4

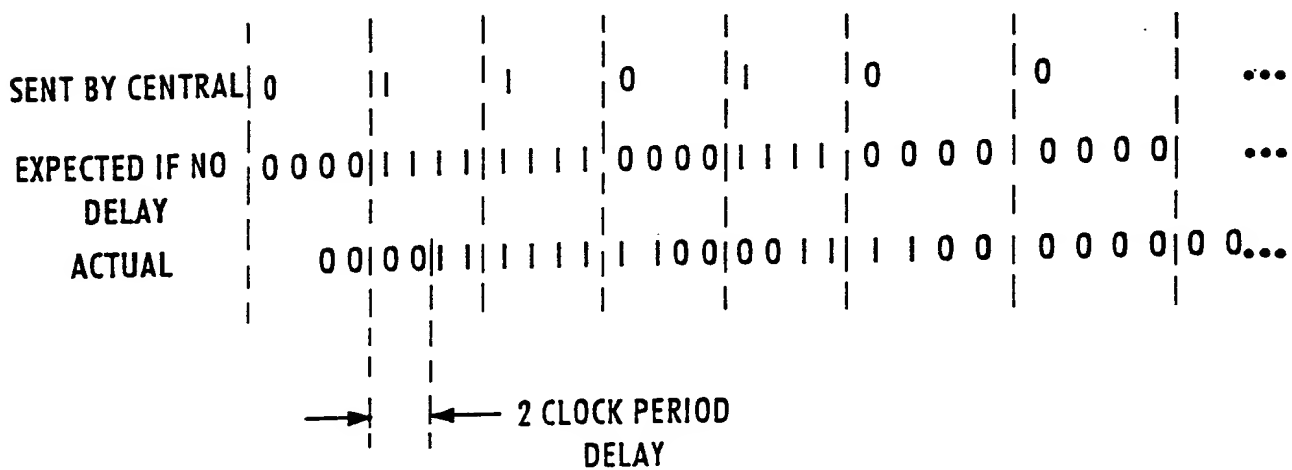


Figure 5

09153864-091599  
005160-4985160

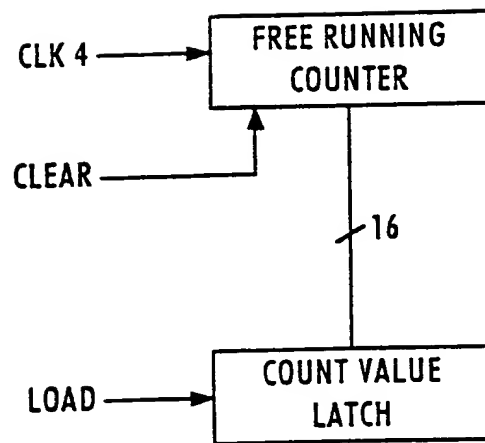


Figure 6A

# Poll Sequence

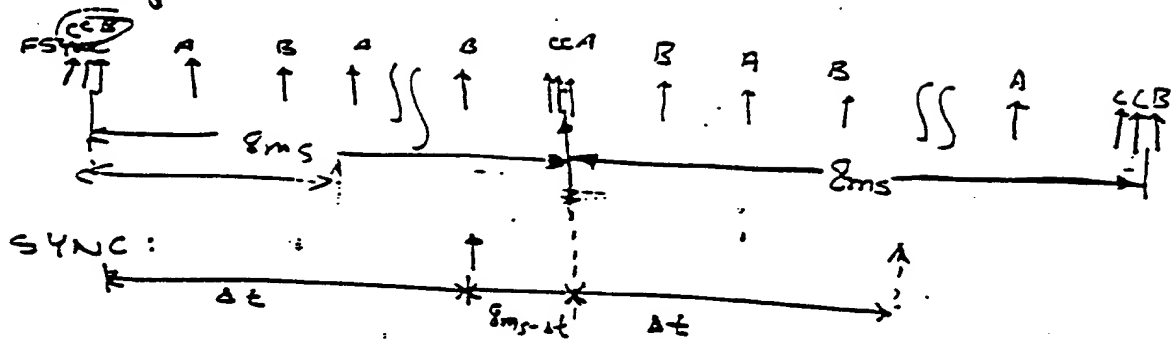


FIGURE 6B

869T60-1985T60

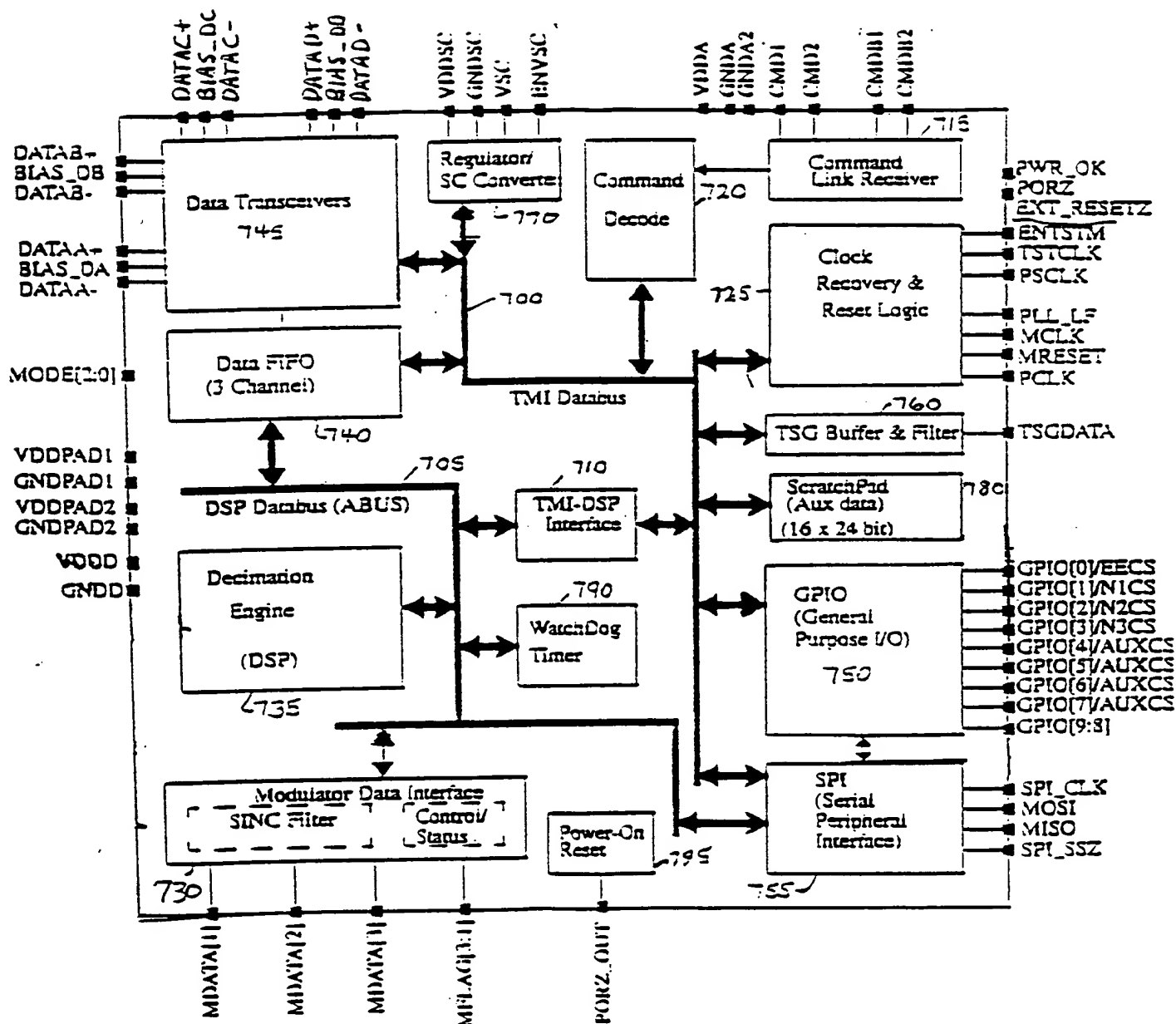


FIGURE 7



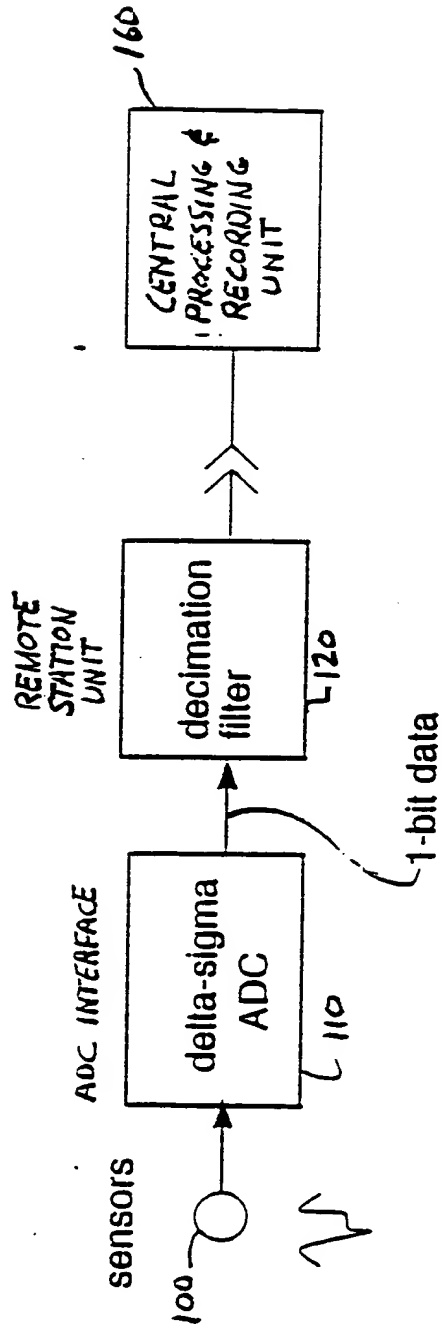


FIGURE 8

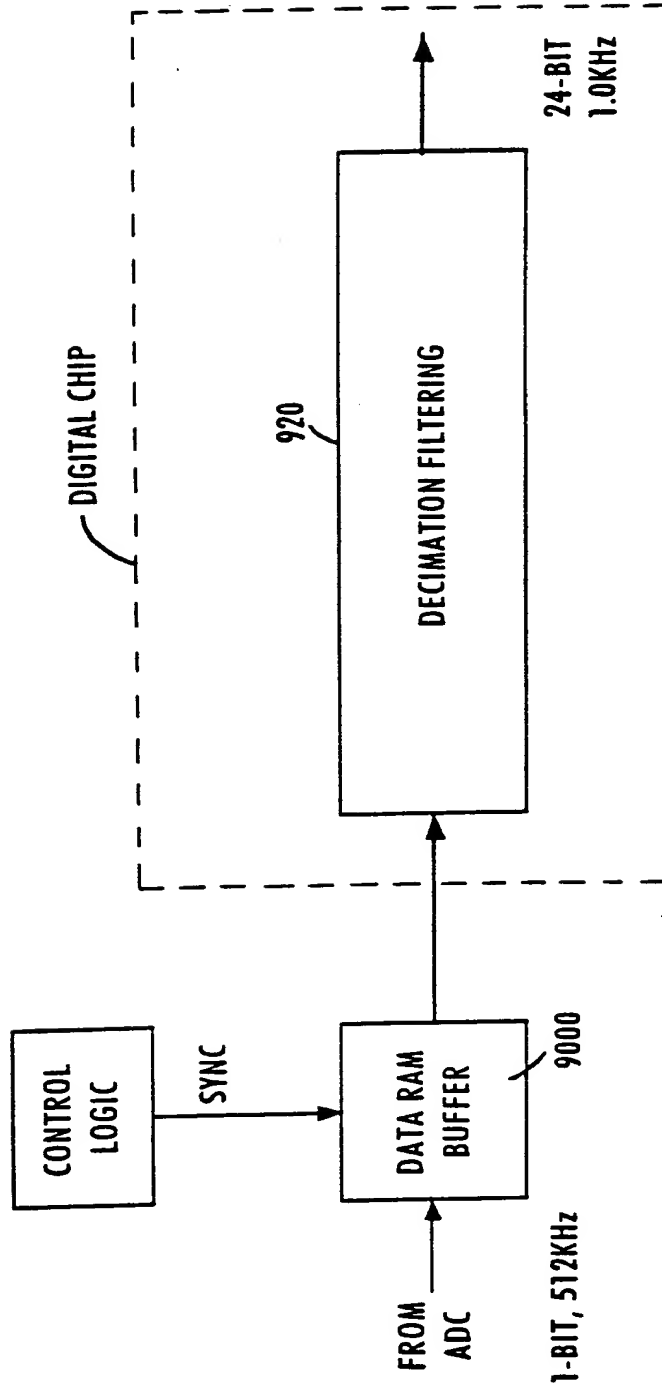


Figure 9 (PRIOR ART)

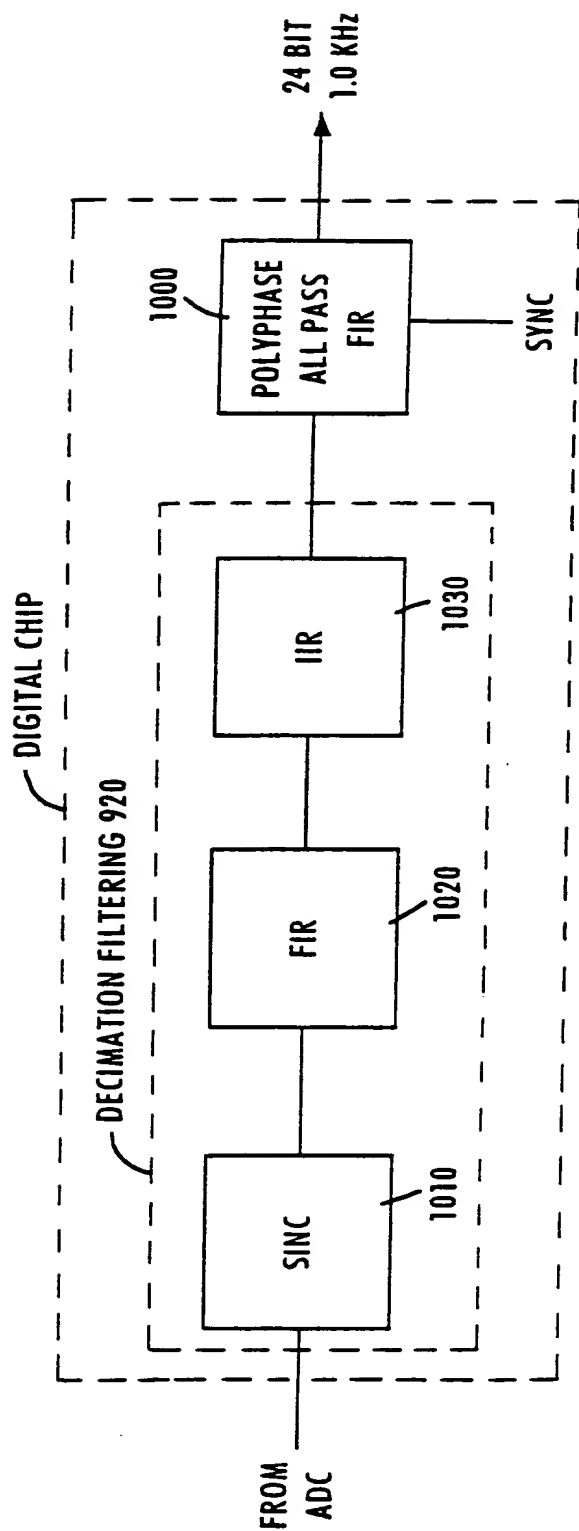


Figure 10

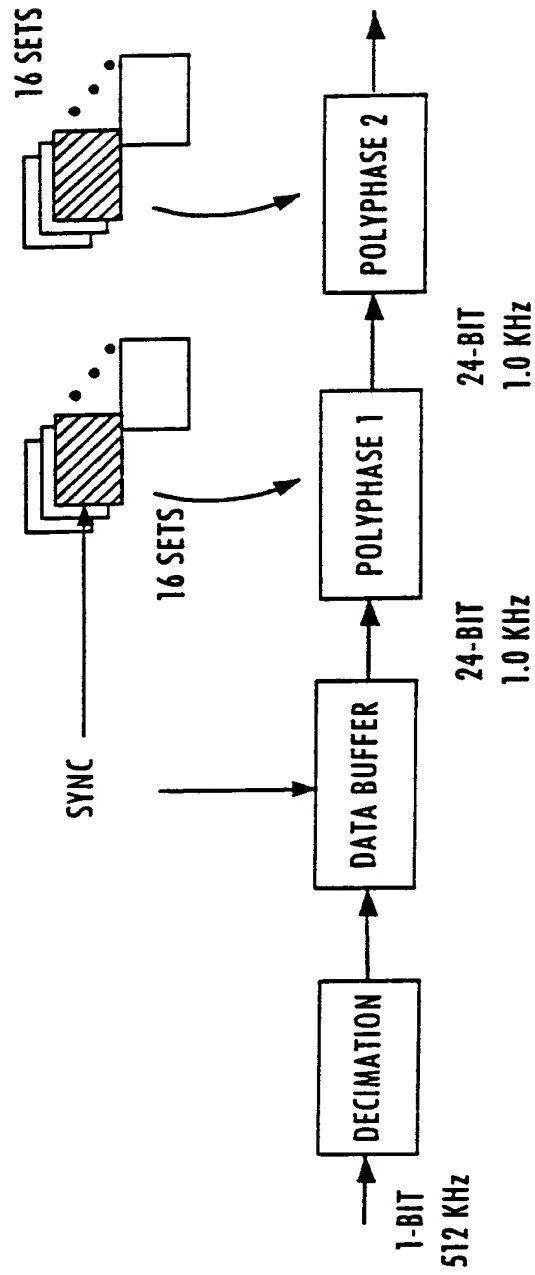


Figure 11

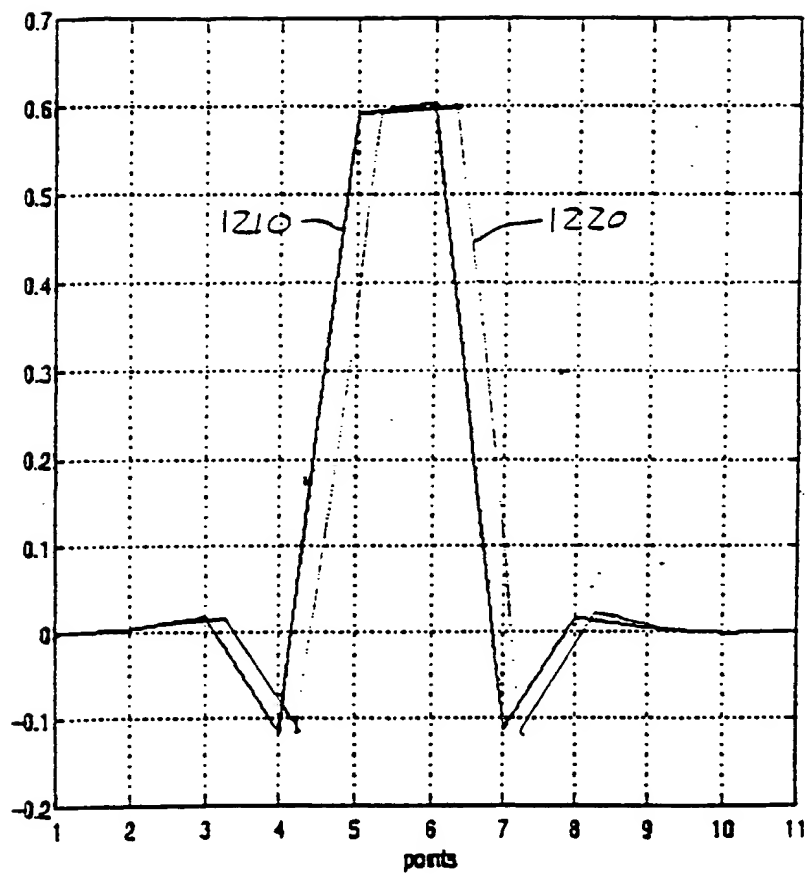
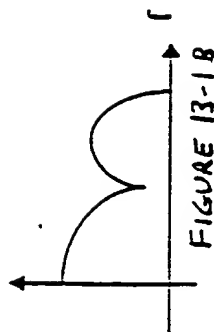
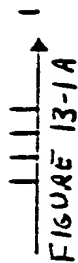


FIGURE 12

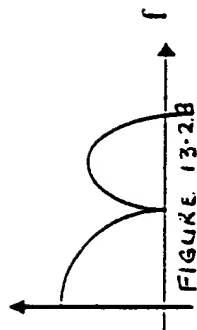
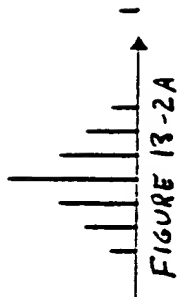
1st order sinc filter



$$H(Z) = \frac{(1 - Z^{-4})}{(1 - Z^{-1})}$$

... FIGURE 13-1C

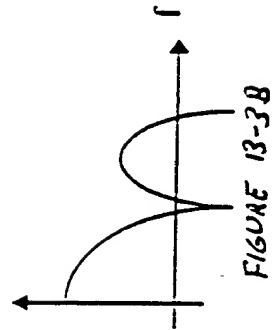
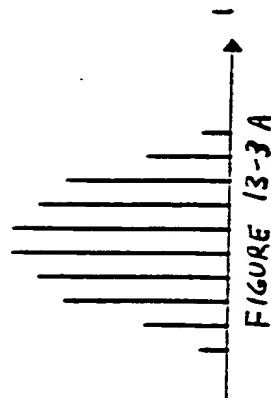
2nd order sinc filter



$$H(Z) = \frac{(1 - Z^{-4})^2}{(1 - Z^{-1})^2}$$

FIGURE 13-2C

3rd order sinc filter



$$H(Z) = \frac{(1 - Z^{-4})^3}{(1 - Z^{-1})^3}$$

FIGURE 13-3C

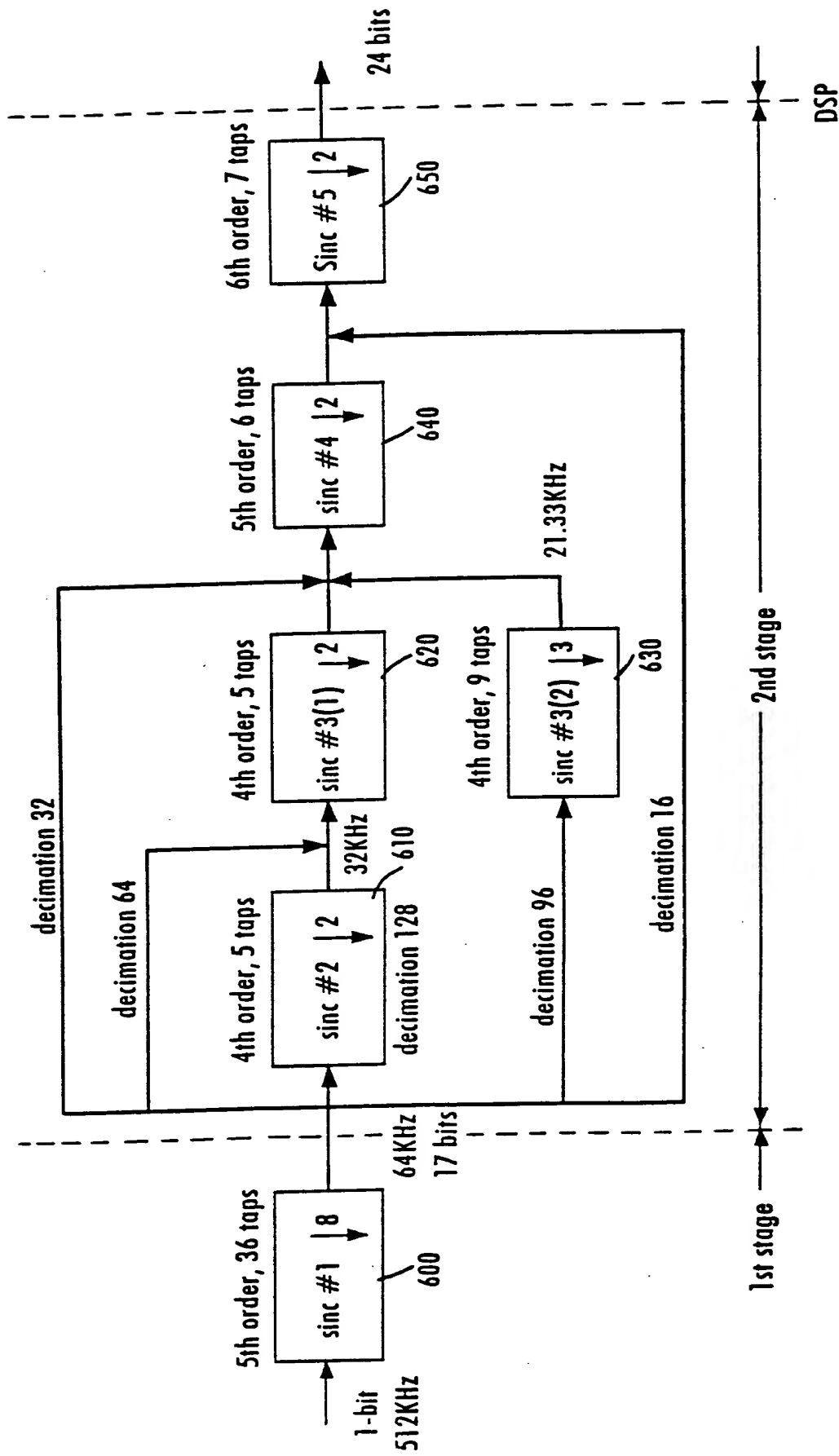


Figure 14

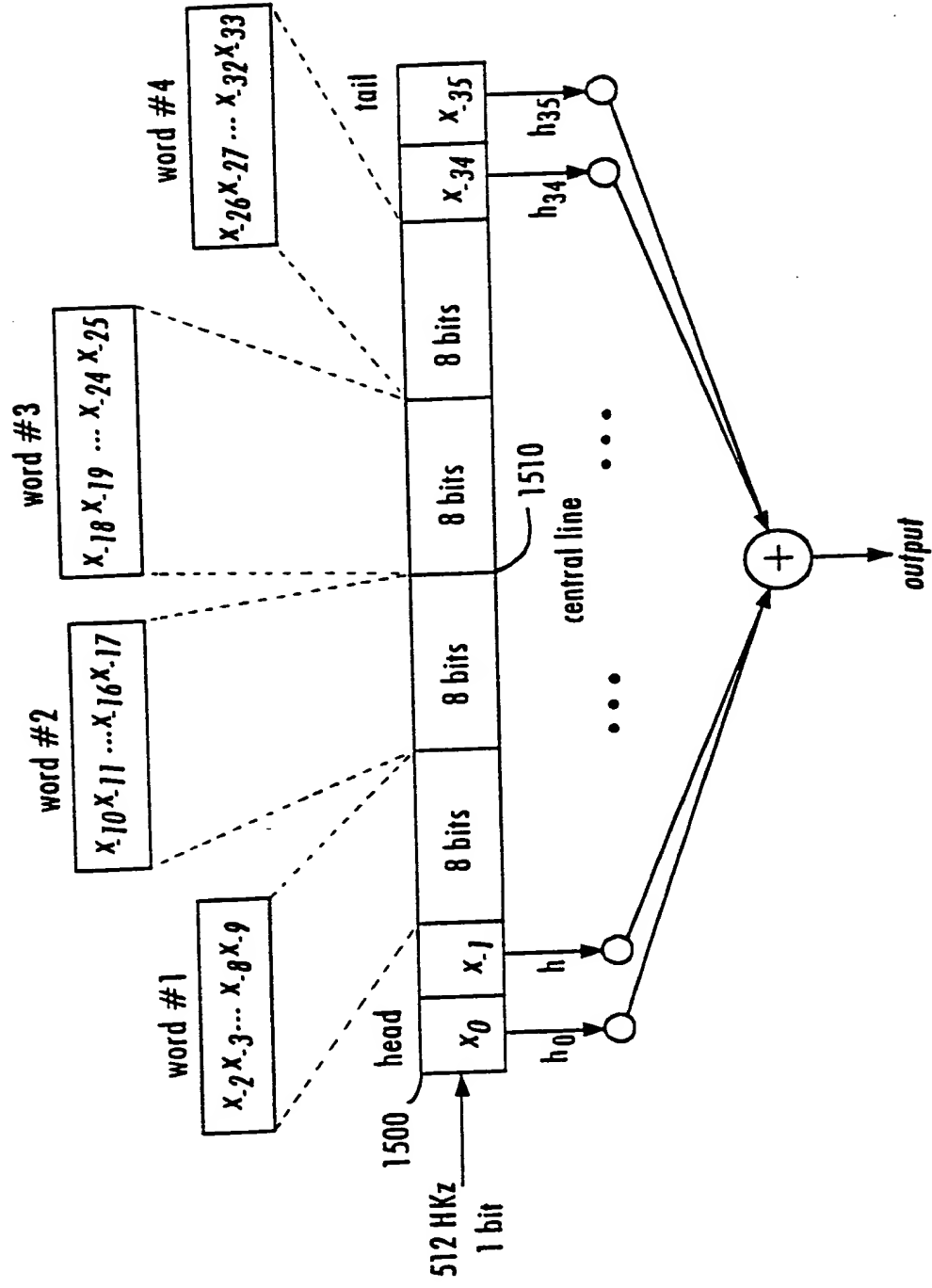


Figure 15



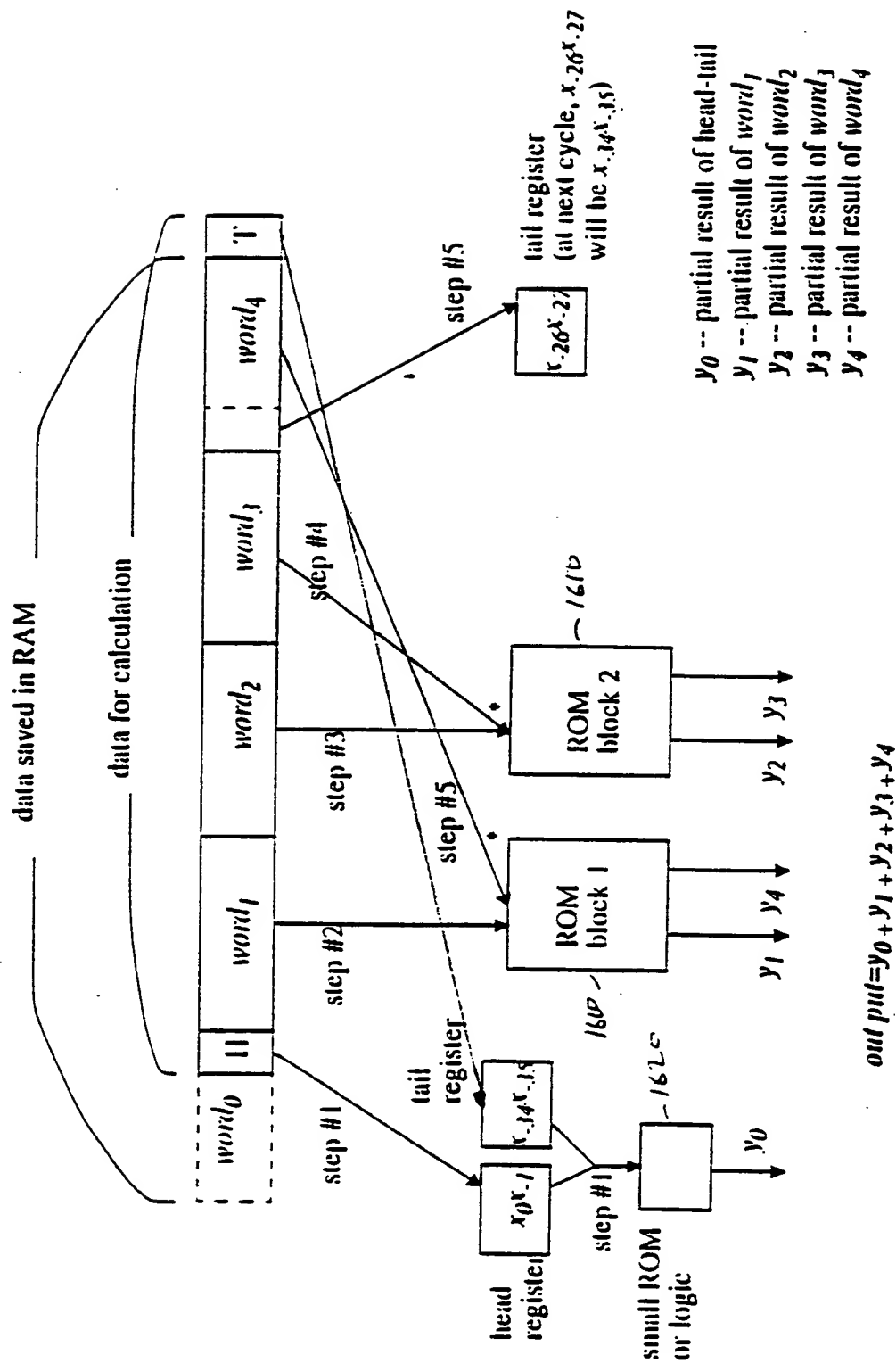


FIGURE 16

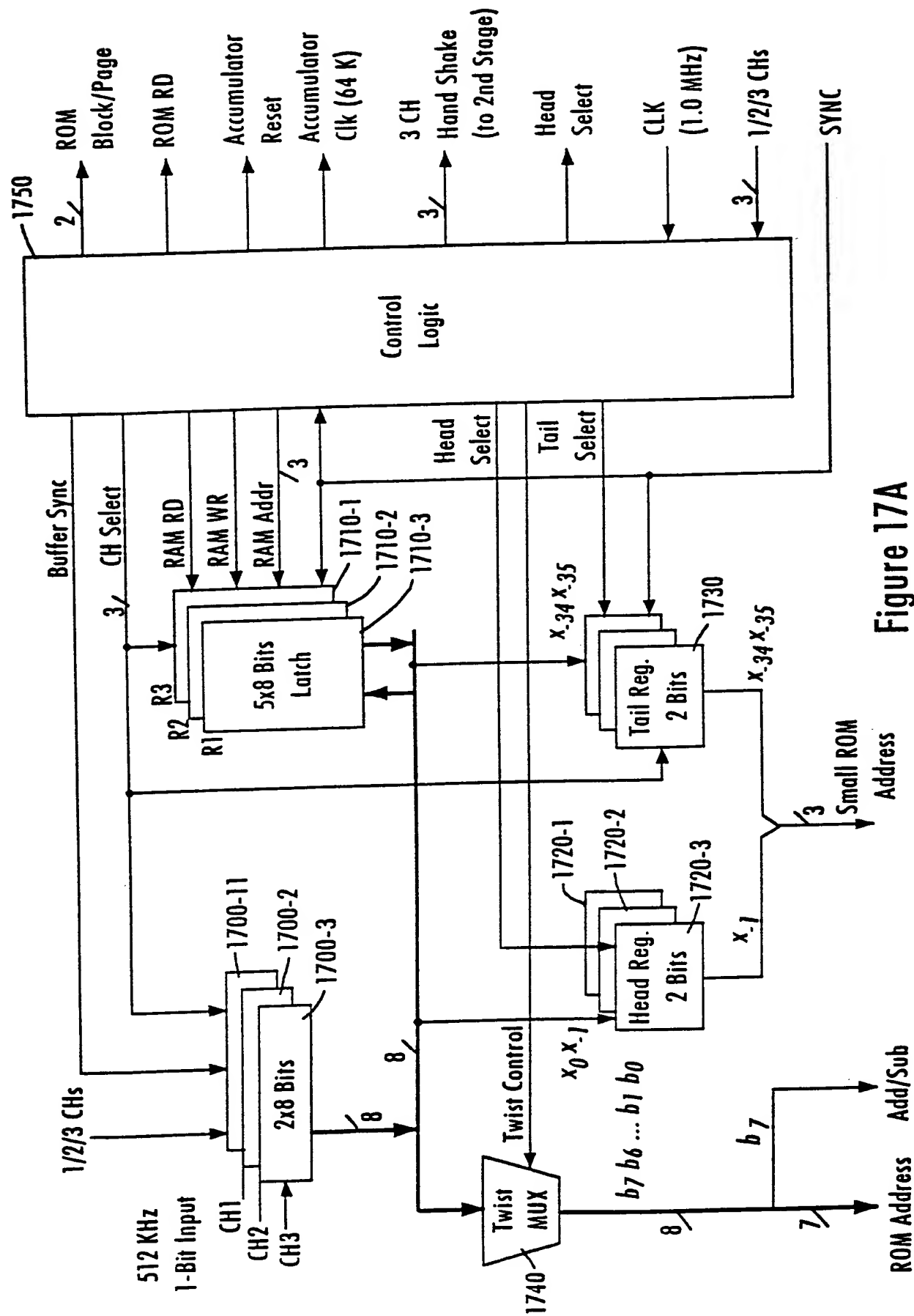


Figure 17A

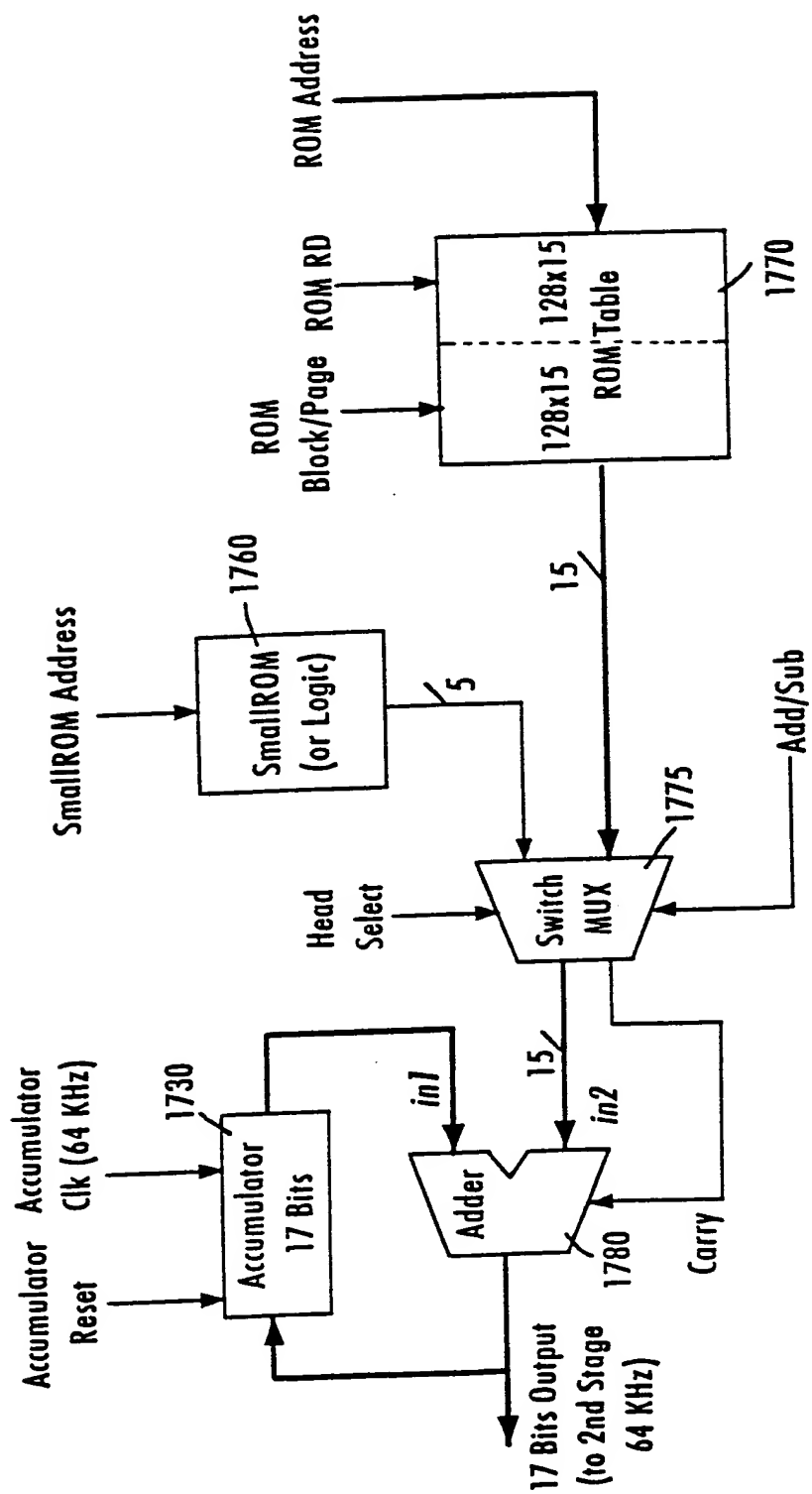


Figure 17B

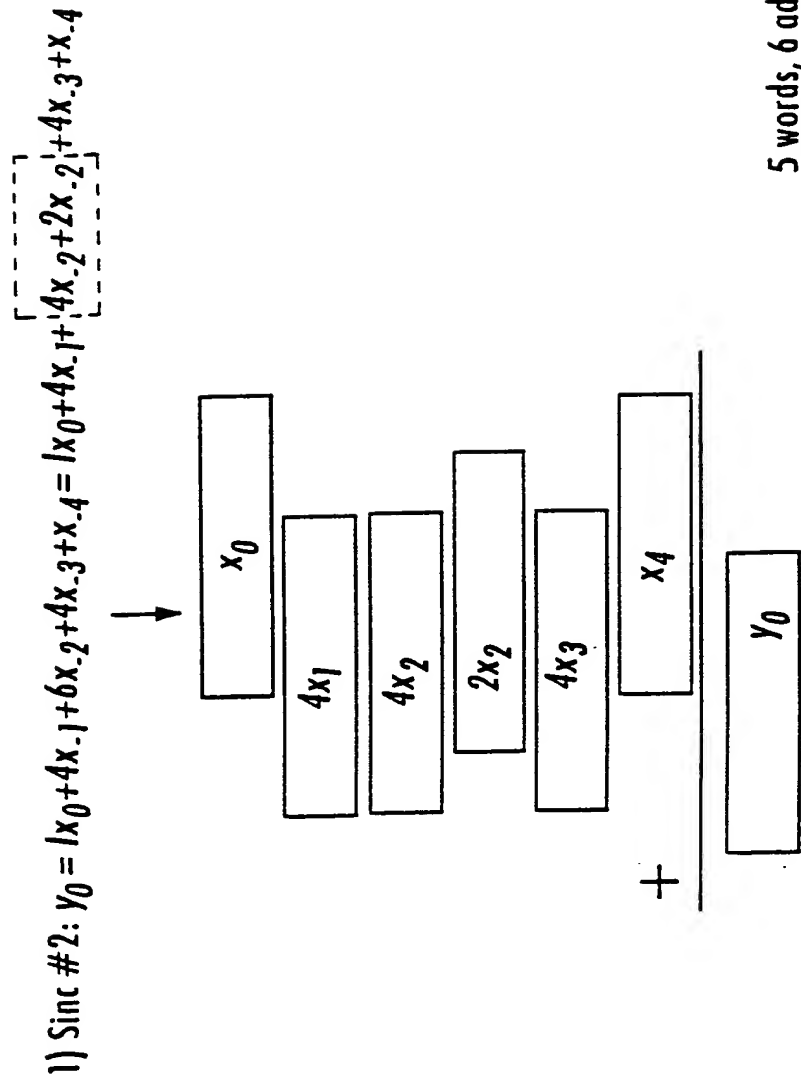


Figure 18A

FIG. 188-1 Sinc#3(1) = sinc#2

5 words, 6 additions

$$\begin{aligned} \text{FIG. 188-2 Sinc#3(2): } & x_0 + 4x_{-1} + 10x_{-2} + 16x_{-3} + 19x_{-4} + 16x_{-5} + 10x_{-6} + 4x_{-7} + x_{-8} \\ & = x_0 + 4x_{-1} + \boxed{8x_{-2} + 2x_{-2}} + \boxed{16x_{-3} + 16x_{-4} + 2x_{-4} + x_{-4}} + \boxed{16x_{-5} + 8x_{-6} + 2x_{-6} + 4x_{-7} + x_{-8}} \end{aligned}$$

9 words, 13 additions

$$\text{FIG. 188-3 Sinc#4: } x_0 + 5x_{-1} + 10x_{-2} + 10x_{-3} + 5x_{-4} + x_{-5}$$

$$= x_0 + \boxed{4x_{-1} + x_{-1}} + \boxed{8x_{-2} + 2x_{-2}} + \boxed{8x_{-3} + 2x_{-3}} + \boxed{4x_{-4} + x_{-4} + x_{-5}}$$

6 words, 10 additions

$$\text{FIG. 188-4 Sinc#5: } x_0 + 6x_{-1} + 15x_{-2} + 20x_{-3} + 15x_{-4} + 6x_{-5} + x_{-6}$$

$$= x_0 + \boxed{4x_{-1} + 2x_{-1}} + \boxed{16x_{-2} - x_{-2}} + \boxed{16x_{-3} + 4x_{-3}} + \boxed{16x_{-4} - x_{-4}} + \boxed{4x_{-5} + 2x_{-5} + x_{-6}}$$

7 words, 12 additions

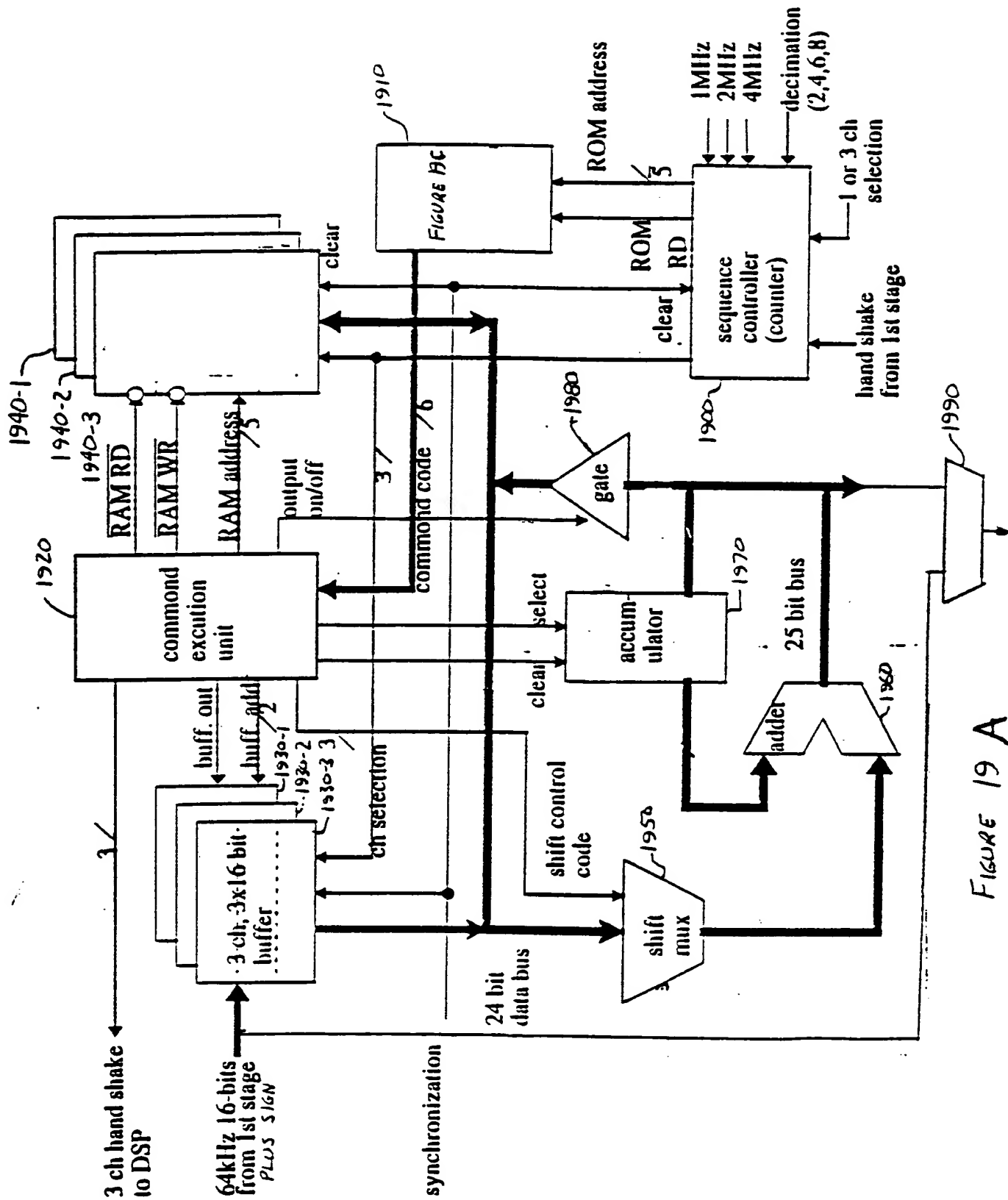


FIGURE 19 A

Programmable Main-Routine and Sub-Routine, Decimate by 8

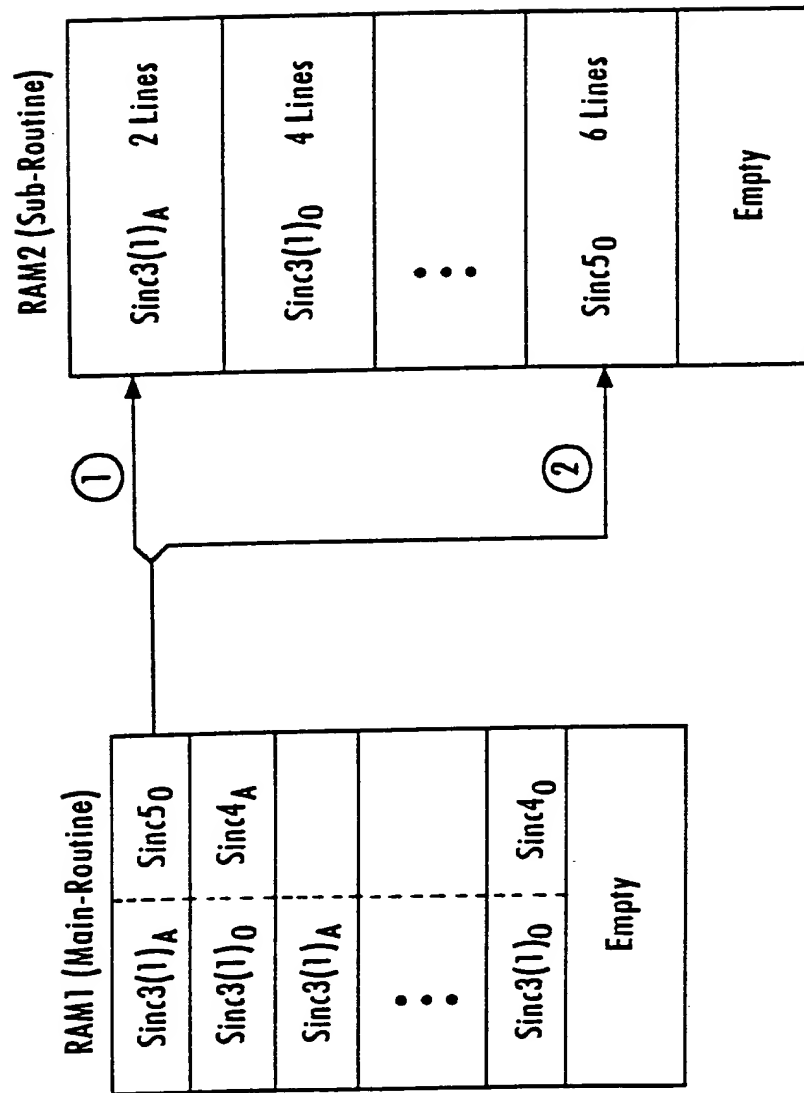


Figure 19B

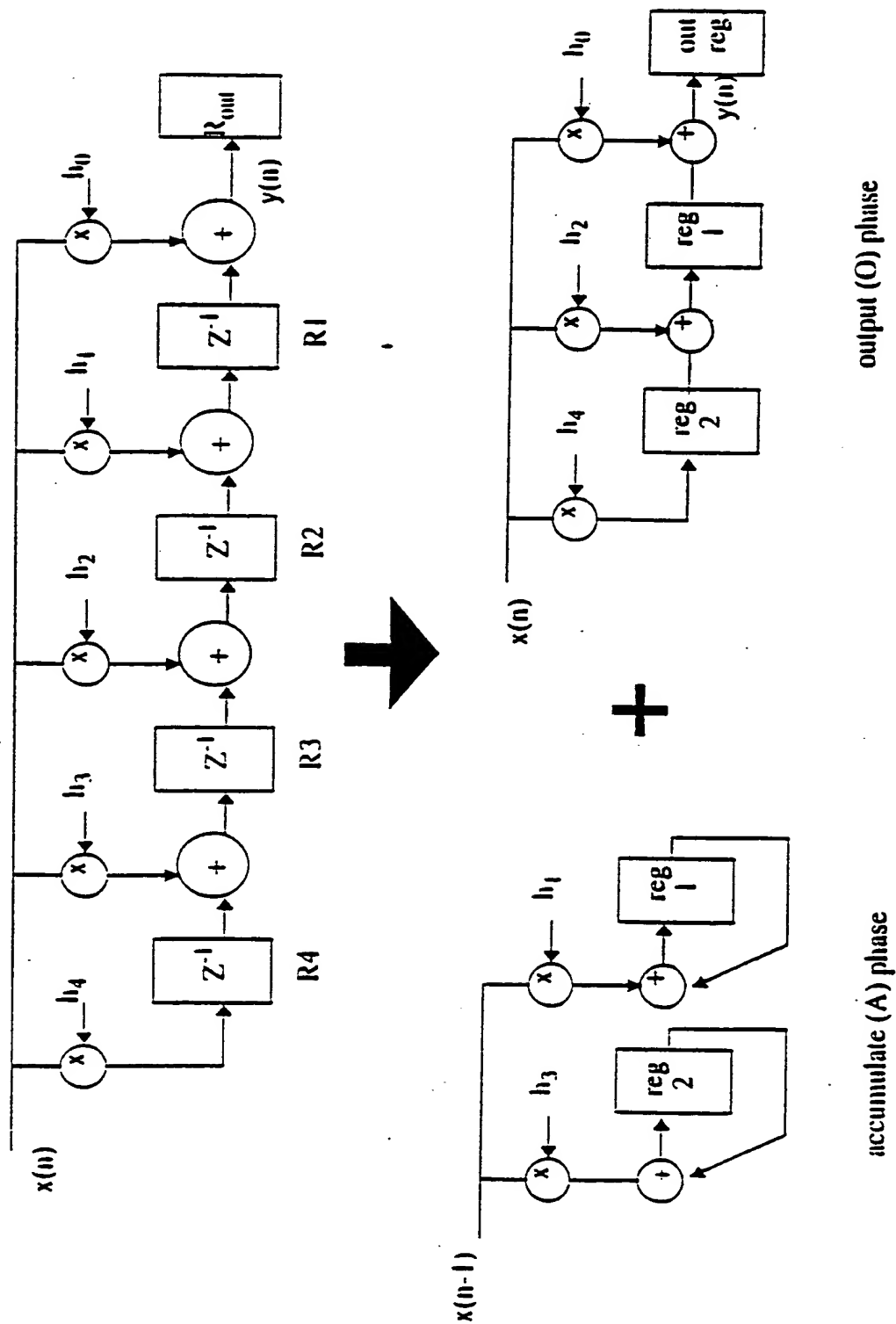


FIGURE 20



Figure 21A

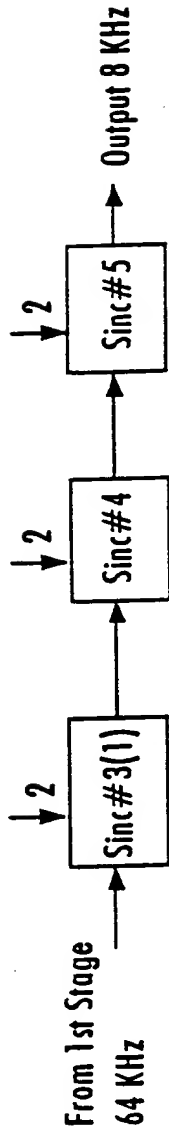


Figure 21B

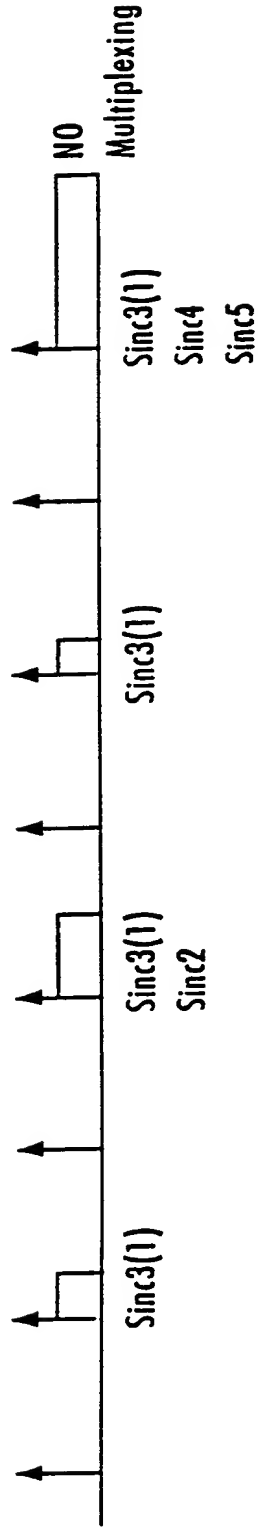


Figure 21C

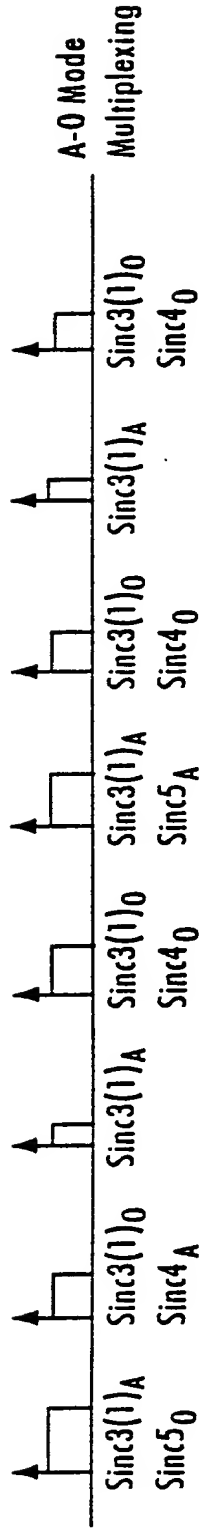
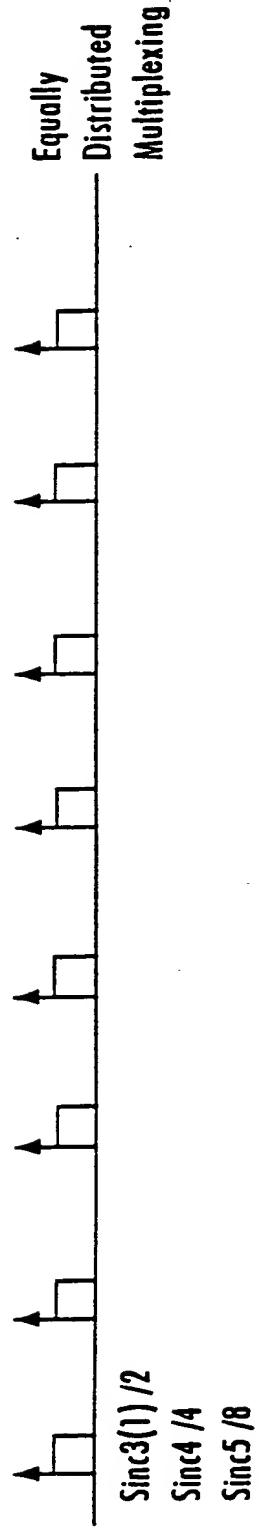


Figure 21D



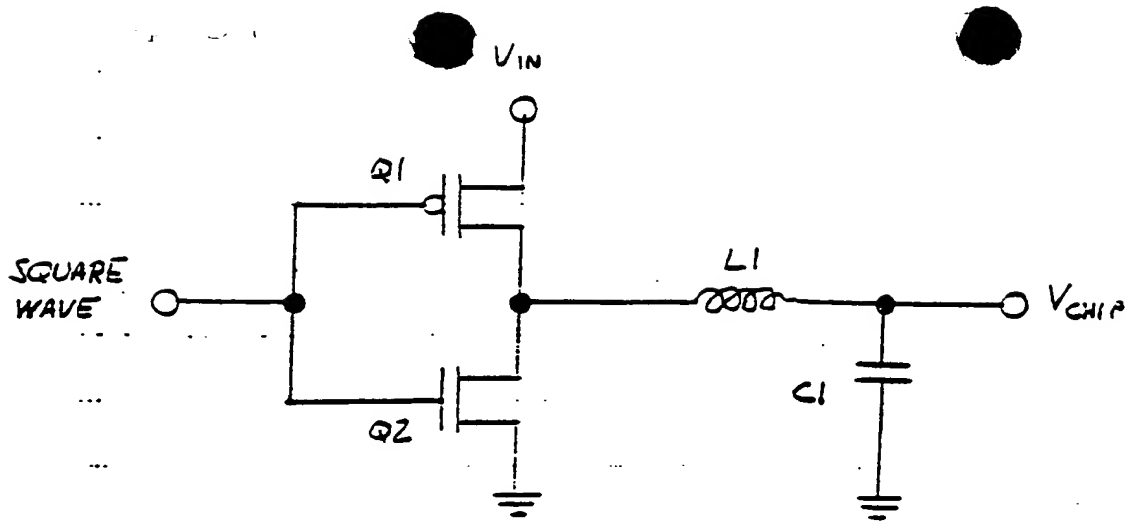


FIGURE 22 (PRIOR ART)

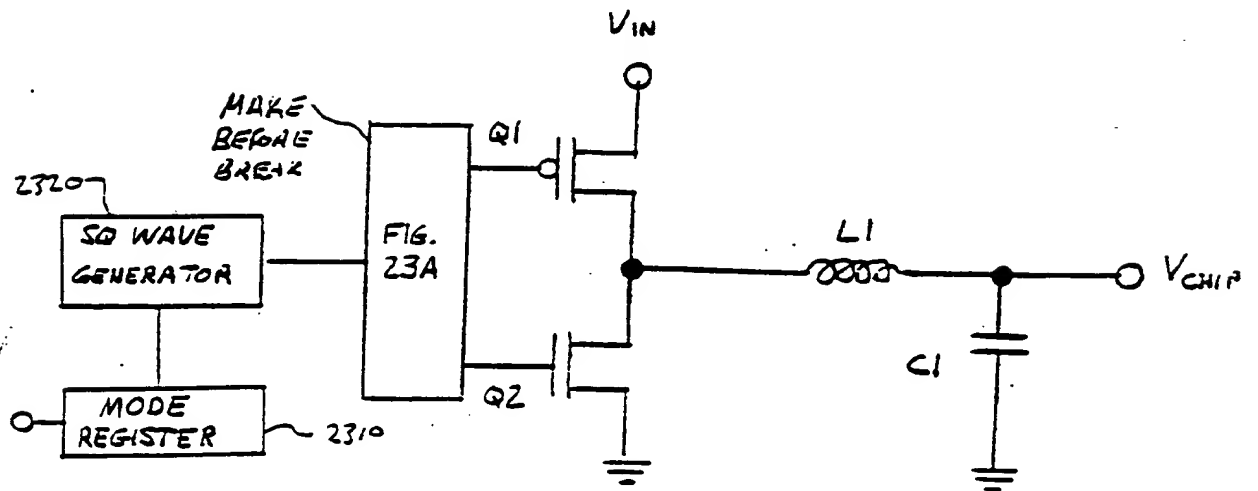


FIGURE 23

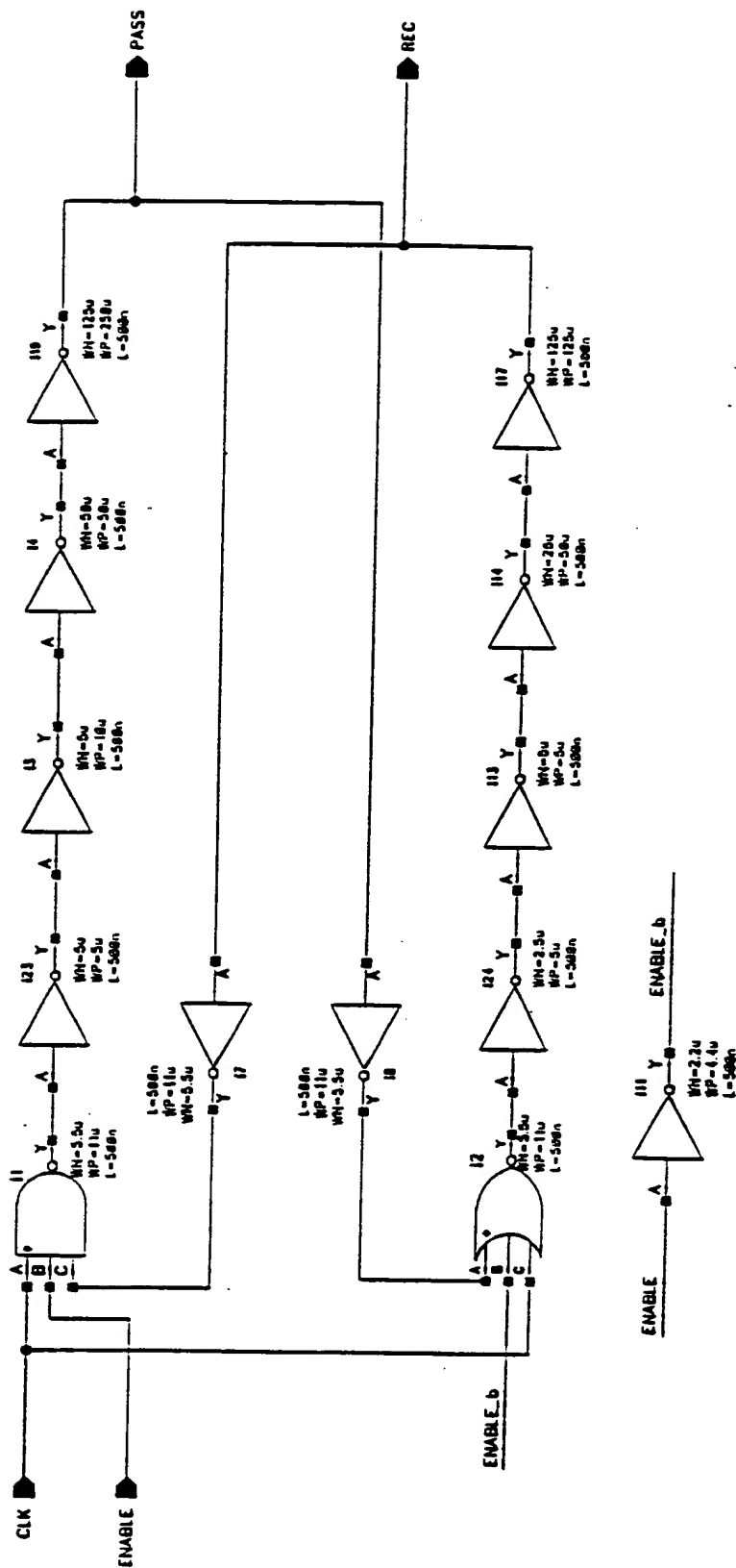


FIGURE 24

The timing diagram illustrates the power-up sequence for the AD9225. The signals shown are 5V VDD, PORZ, SC\_RSTZ, TMI\_RSTZ, PLL, PD Output, and 2.5V VDD. The sequence of events is as follows:

- 2520:** Supply reaches 5.0V. The 5V VDD signal rises, and the PORZ signal transitions from high to low.
- 2530:** Power on reset activated. The PLL signal starts oscillating, and the PD Output signal transitions from low to high.
- 2535:** Release duty cycle hold on switched converter. The SC\_RSTZ signal transitions from high to low, and the TMI\_RSTZ signal transitions from high to low.
- 2540:** All clocks released. The PLL and PD Output signals continue to oscillate.

The diagram also shows the timing of the 2.5V VDD signal, which is held at 1 during the power-up sequence. The timing parameters are defined as follows:

- T<sub>RAMP</sub>:** Time from power applied to 2500 to power on reset activated (2530).
- T<sub>SC\_RSTZ</sub>:** Time from power on reset activated (2530) to release duty cycle hold on switched converter (2535).
- T<sub>SC\_SETTLE</sub>:** Time from release duty cycle hold on switched converter (2535) to all clocks released (2540).
- T<sub>RESETZ</sub>:** Time from power on reset activated (2530) to all clocks released (2540).

FIGURE 25

069T60-19825T60

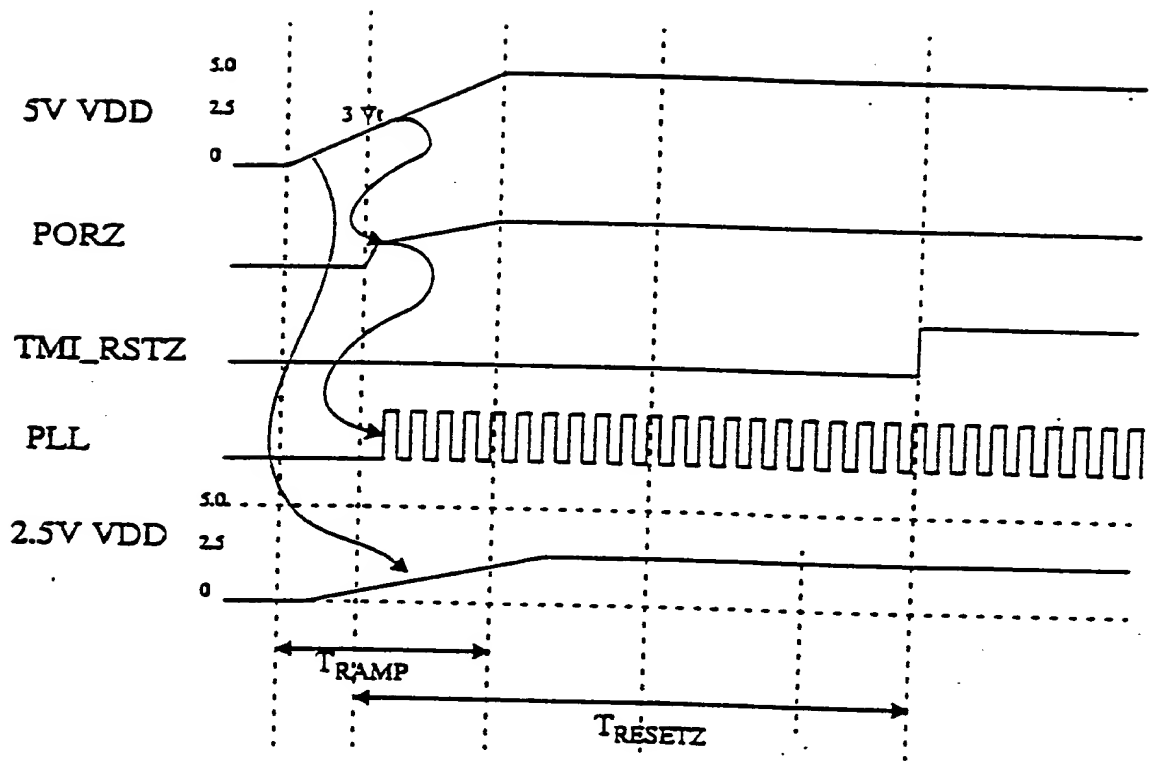


FIGURE 26

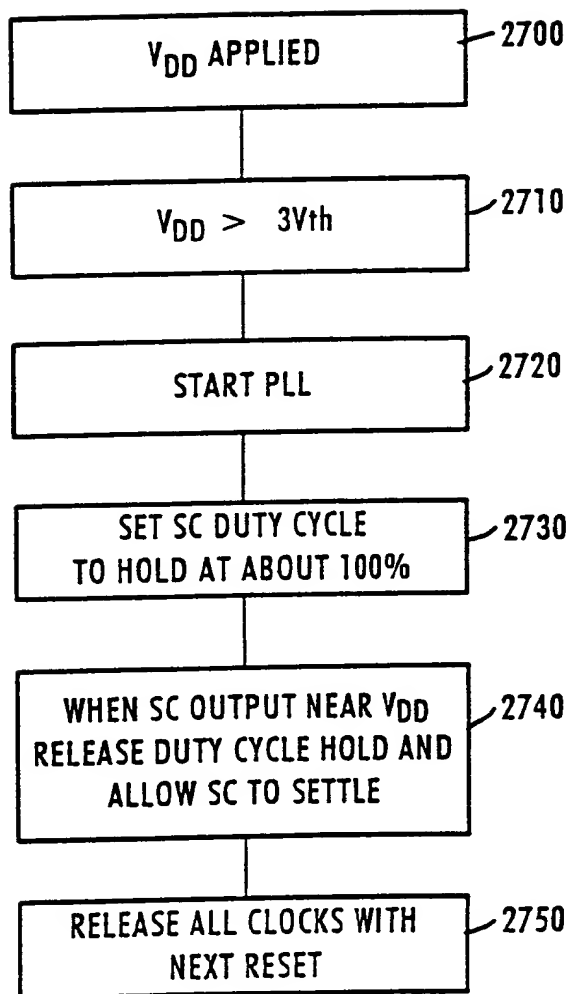
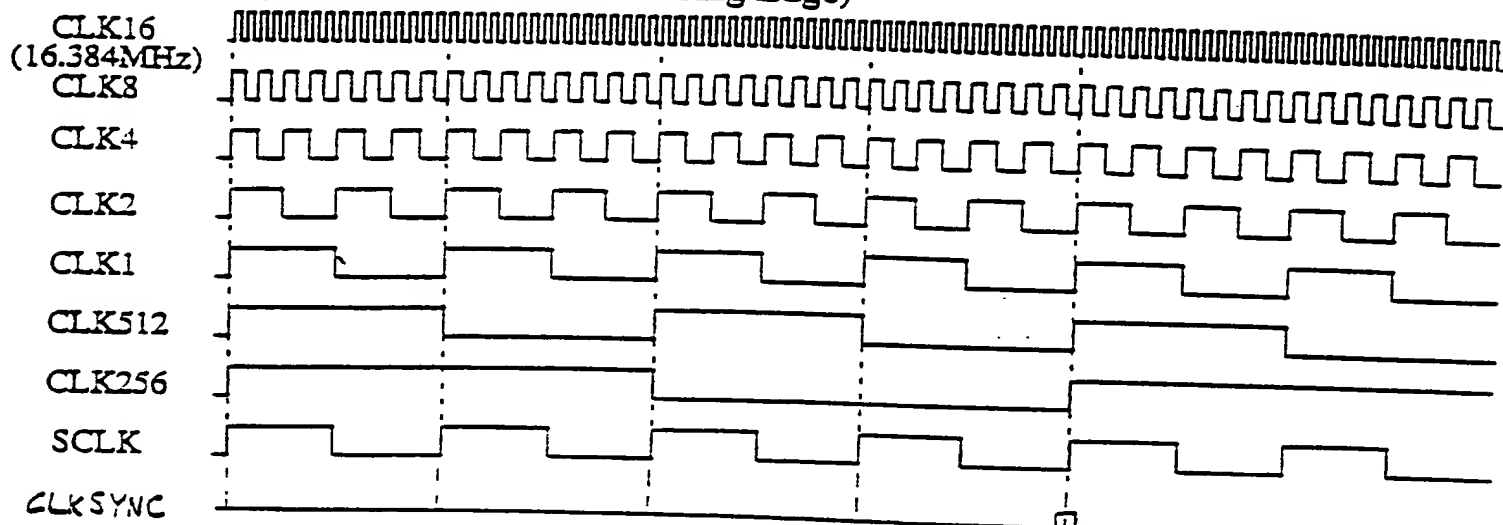


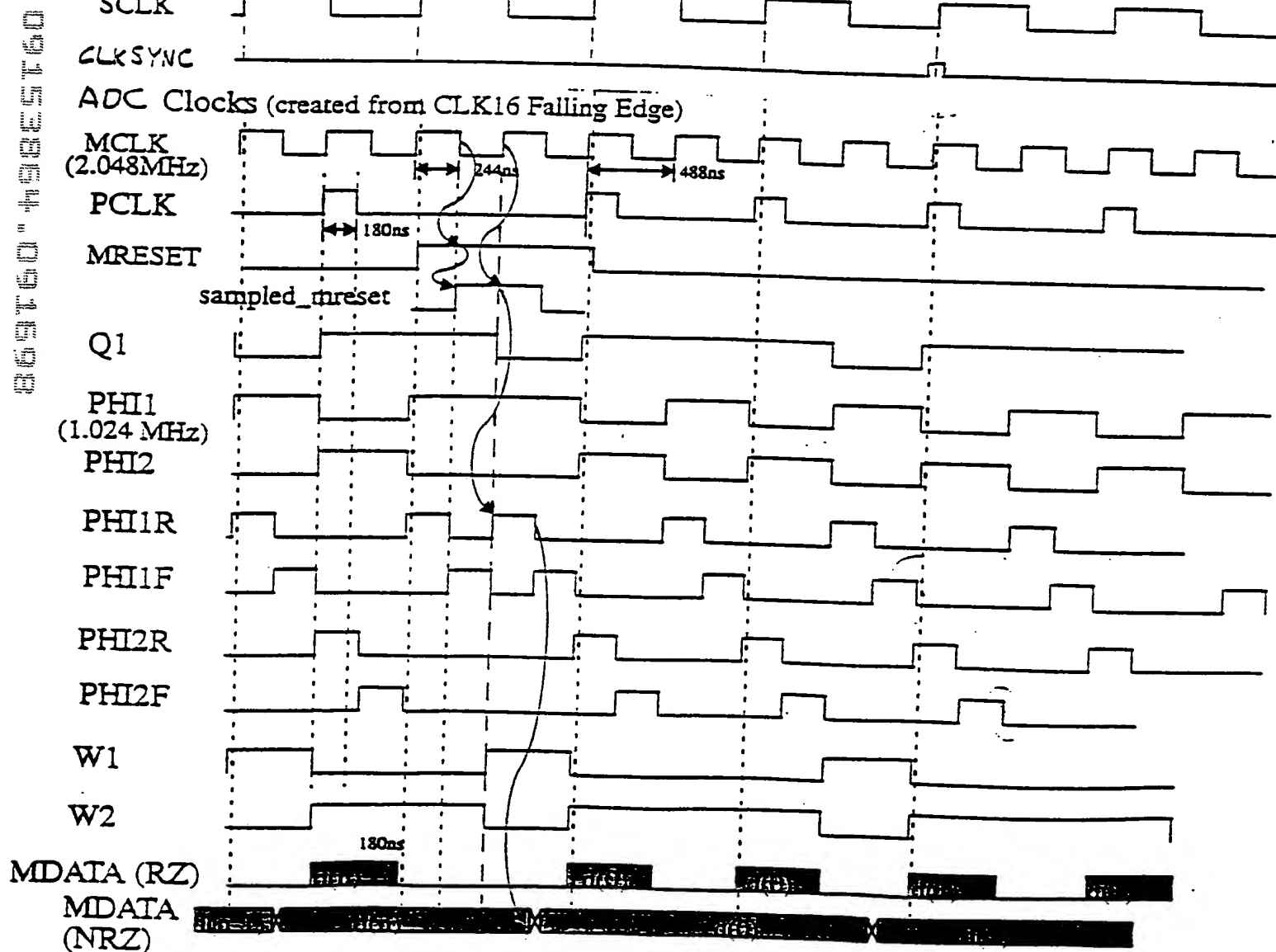
Figure 27

## RSU &amp; ADC interface Clock Relationships with SYNC

RSU Clocks (Created from CLK16 Rising Edge)



ADC Clocks (created from CLK16 Falling Edge)



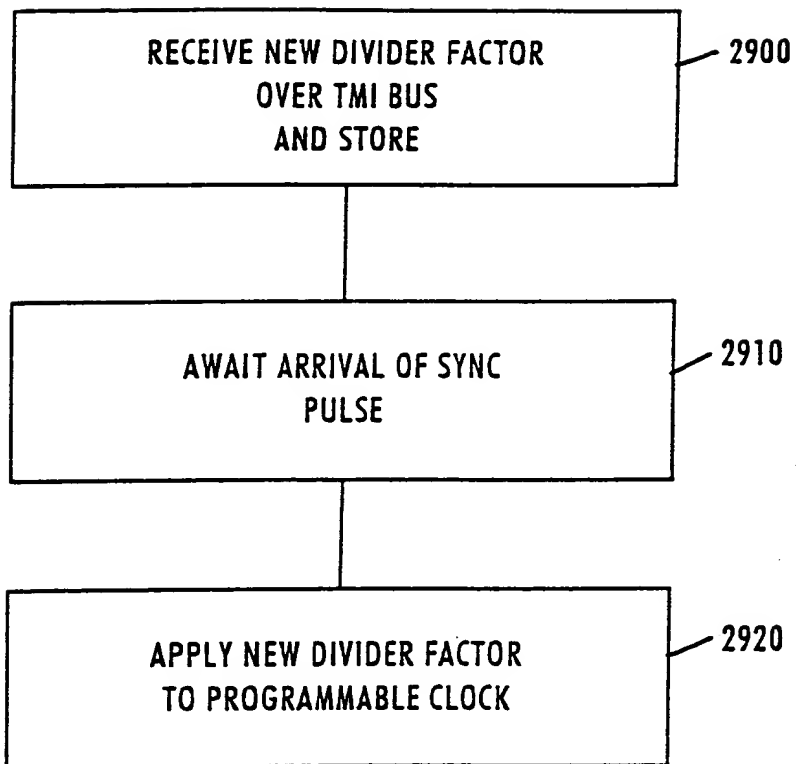


Figure 29



09163864, 091698

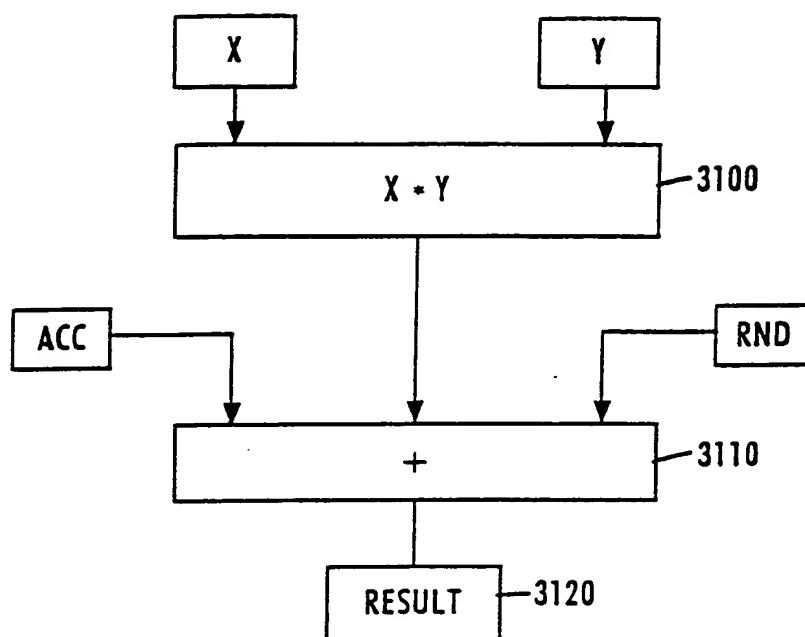


Figure 31

$$X * Y + ACC + RND$$

Figure 30

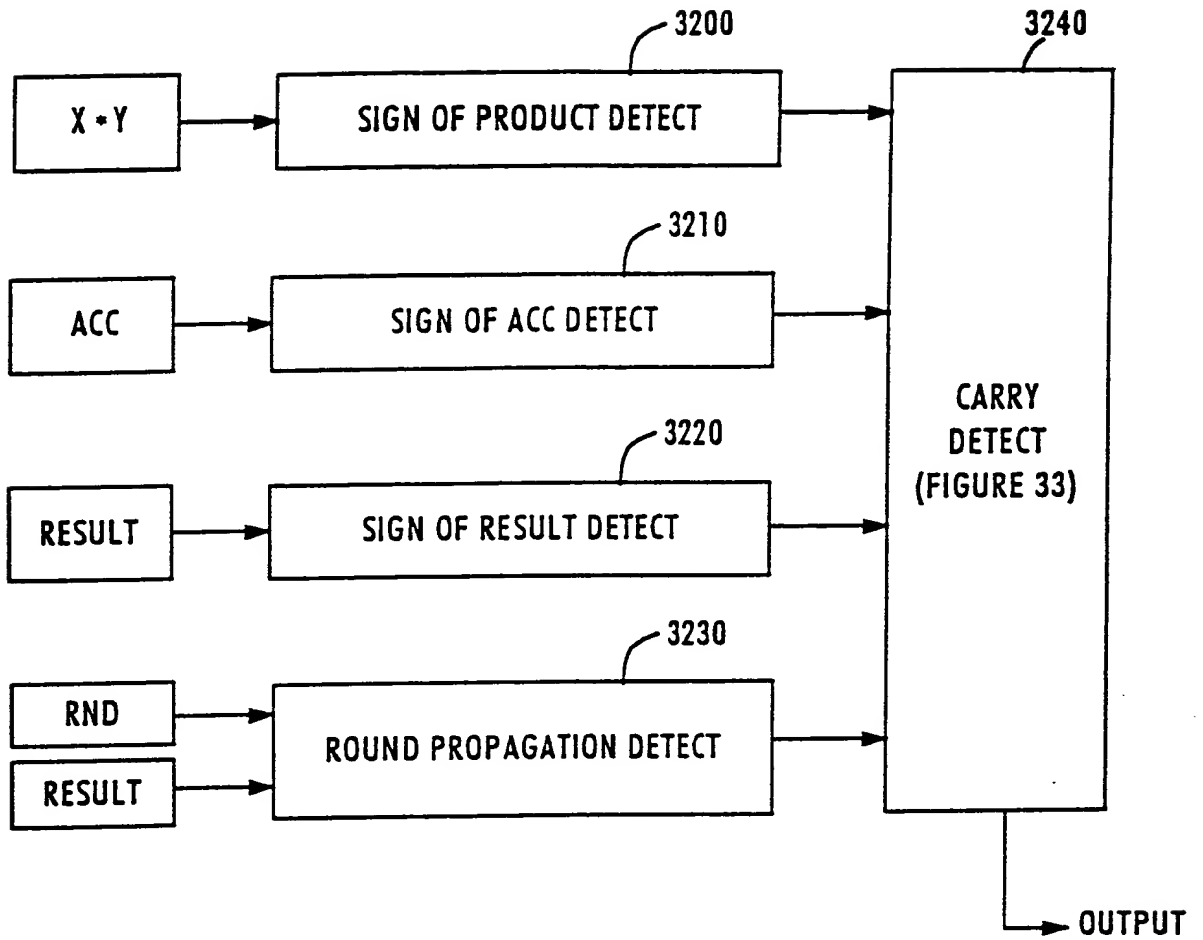


Figure 32

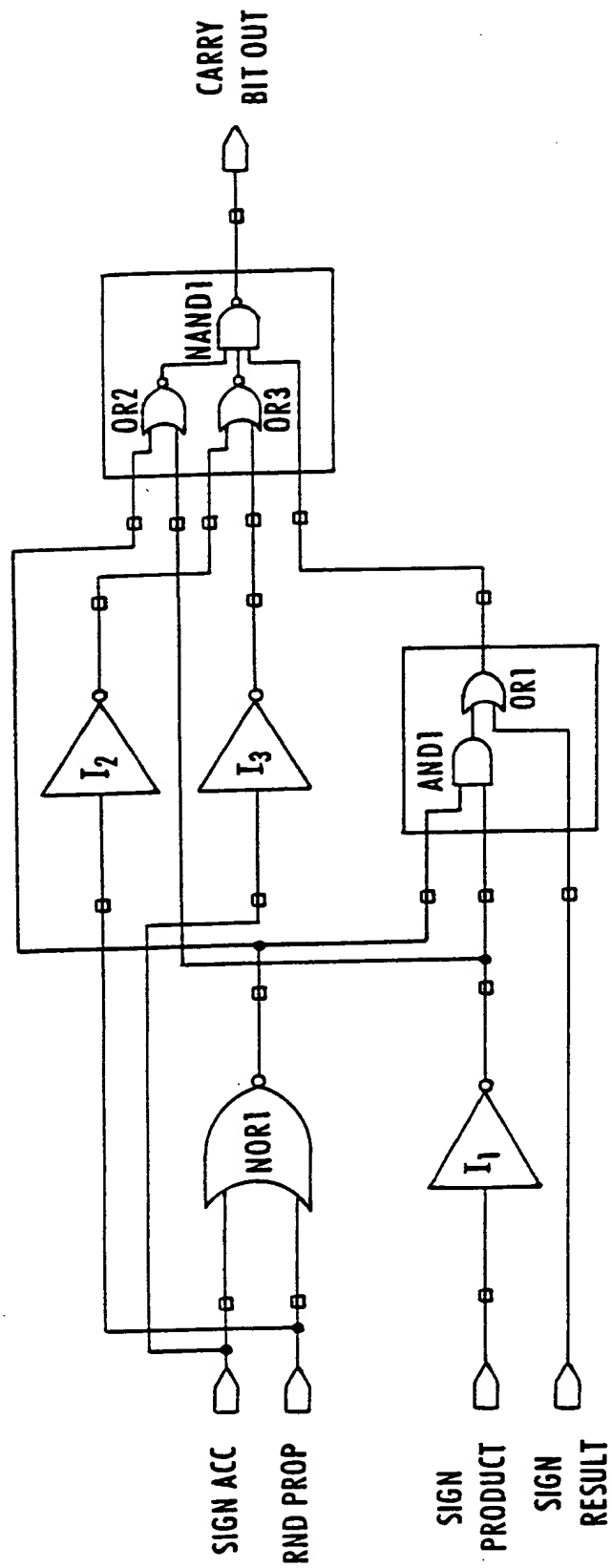


Figure 33